

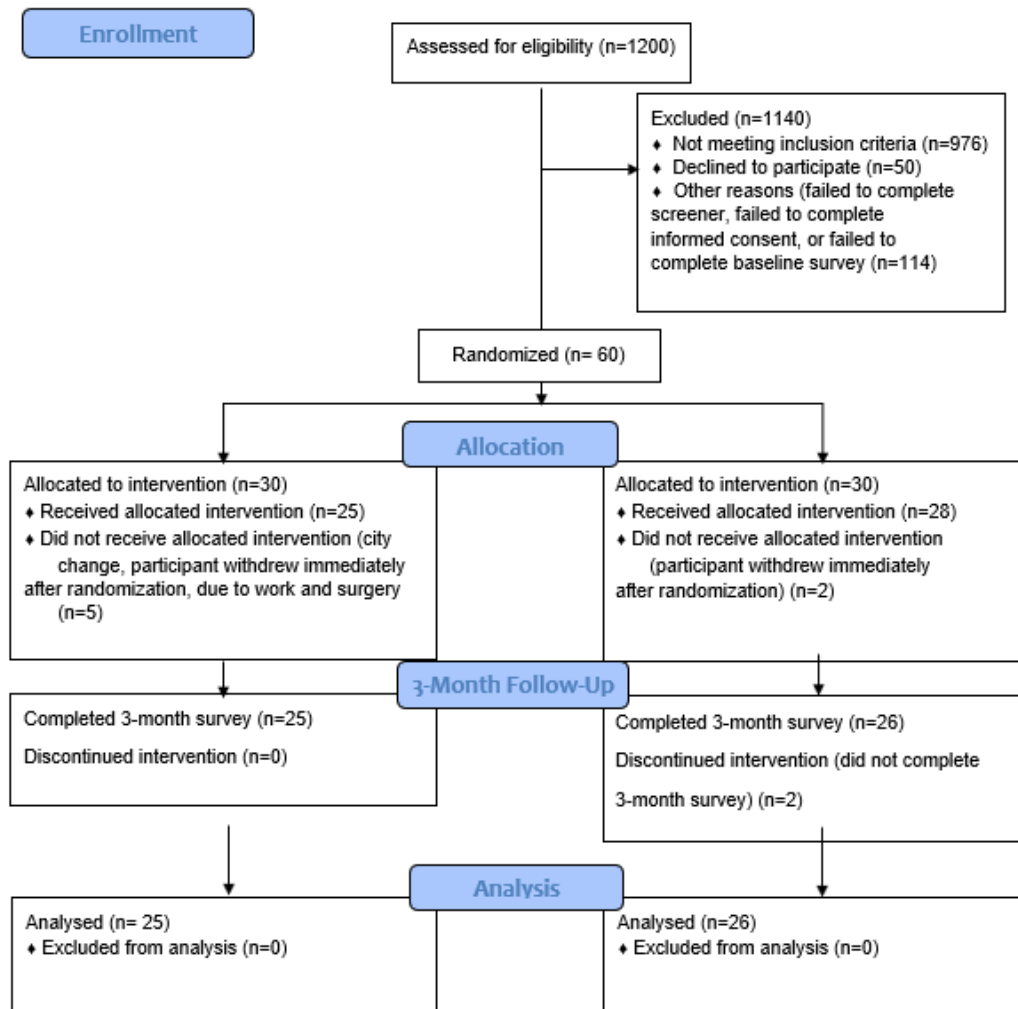
## **Effects of Motivational Interviewing Intervention on Self- Management and HbA1c in Type 2 Diabetes Patients**

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### **Statistical Analysis Plan**

Descriptive analyses (arithmetic mean, standard deviation, minimum–maximum, ratio, percentage) were used to evaluate the similarities of the experimental and control groups, a Mann-Whitney U Test was used to compare the experimental and control groups pretest and posttest Instrument scores, and a Wilcoxon signed-ranks test was used to compare the pretest and posttest scores of the experimental and control groups. The results were evaluated at a 95% confidence interval and a  $p < 0.05$  significance level.

## Study Protocol



## Results

The research was conducted between February and December 2017. There were 60 people who met the inclusion criteria randomly assigned to the intervention and control groups.

The individual characteristics of the diabetes patients are shown in Table 1. According to this, it was determined that the mean age of the patients in the intervention group was  $56.28 \pm 8.18$  years, 56% of the patients were female and the mean BMI of the patients was  $32.49 \pm 6.41$ . The mean

age of the patients in the control group was  $55.54 \pm 7.60$  years, 69.2% of these patients were female, and the mean BMI of these patients was  $33.54 \pm 5.93$ . No significant differences were found when the personal characteristics of the intervention and control groups were compared.

Table 1- Individual and Diabetes Characteristics of the Intervention and Control Groups

<i>Variable</i>		Intervention (n=25)	Control (n=26)	<i>Statistic</i>	
				Z/ $\chi^2$	p
Age (year)	Min-Max (Median)	40-69 (57)	46-74 (55)	-,632	,527
	Mean $\pm$ Sd	56,28 $\pm$ 8,18	55,54 $\pm$ 7,60		
Gender; n (%)	Female	14 (56)	18 (69,2)	,954	,329
	Male	11 (44)	8 (30,8)		
BMI (kg/m <sup>2</sup> )	Min-Max (Median)	24,6-48,3 (30,8)	22,4-47 (32,8)	,962	,318
	Mean $\pm$ Sd	32,49 $\pm$ 6,41	33,54 $\pm$ 5,93		
Education; n (%)	Literate	1 (4)	5 (19,2)	4,737	,192
	Primary/Secondary school	21 (84)	17 (65,4)		
	High school and above	3 (12)	4 (15,4)		
Occupation; n (%)	Non-working	10 (40)	17 (65,4)	6,400	,094
	Salaried employee	3 (12)	5 (19,2)		
	Retired	10 (40)	3 (11,5)		
	Other	2 (8)	1 (3,8)		
Economic status; n (%)	Worse	3 (12)	1 (3,8)	3,537	,171
	Moderate	20 (80)	25 (96,2)		
	Better	2 (8)	-		
People with whom he/she lives; n (%)	Alone	1 (4)	2 (7,7)	2,605	,457
	Partner(wife/husband)	10 (40)	6 (23,1)		
	Partner and children	14 (56)	17 (65,4)		
	Children	-	1 (3,8)		
Duration of diabetes (year)	Min-Max (Median)	1-20 (7)	2-30 (10)	-,454	,649
	Mean $\pm$ Sd	9,20 $\pm$ 5,70	10,15 $\pm$ 6,37		
Family history; n (%)	Yes	21 (84)	23 (88,5)	1,739	,419
	No	4 (16)	2 (7,7)		
	Don't know	-	1 (3,8)		
Hospitalization in the past year for diabetes or complications; n (%)	Yes	2 (8)	1 (3,8)	,397	,529
	No	23 (92)	25 (96,2)		
Regular check up; n (%)	Yes	7 (28)	8 (30,8)	,047	,828
	No	18 (72)	18 (69,2)		

Diabetes therapy; n (%)	OAD	2 (8)	3 (11,5)		
	Insulin	5 (20)	1 (3,8)	3,248	,197
	Insulin+ OAD	18 (72)	22 (84,6)		
Diabetes treatment compliance score according to VAS value	Min-Max (Median)	1-11 (4)	0-6 (3)		
	Mean±Ss	5,16±2,40	3,30±1,69	-2,958	,003
A1C	Min-Max (Median)	8,4-15,3 (10)	6,5-14,4 (10)		
	±Ss	10,66±1,91	9,95±2,23	-1,103	,270

Table 1 also shows the characteristics related to diabetes of the intervention and control groups. According to this, it was found that the mean duration of diabetes of the patients in the intervention group was  $9.20 \pm 5.70$  years, 72% of these patients did not have regular health checks according to the self-reported Visual Analog Instrument (VAS) value, the mean score of their compliance with their diabetes treatment was  $5.16 \pm 2.40$ , and their mean HbA1c level was  $10.66 \pm 1.91$ . The mean duration of diabetes of the patients in the control group was  $10.15 \pm 6.37$  years, 69.2% of these patients did not have regular health checks, the mean score of their compliance with their diabetes treatment was  $3.30 \pm 1.69$ , and their mean HbA1c level was  $9.95 \pm 2.23$ . When the characteristics of the illness of the patients in the intervention and control groups were compared, there were only significant differences between the mean scores of their compliance with their diabetes treatment, according to the self-reported VAS value; all other characteristics were the same.

Table 2 shows a comparison of the pretest–posttest DSMS-35 scores of the intervention and control groups. A significant difference was found between the final test scores of the intervention and control groups when these data were compared ( $Z=-6.031$ ,  $p<0.001$ ). A significant difference was also found when a comparison was made between the preliminary test–final test DSMS-35 scores within the intervention and control groups themselves ( $Z=-3.983$ ,  $Z=-2.542$   $p<0.05$ ).

However, while the posttest DSMS-35 scores of the patients in the intervention group had increased, it was found that the final test DSMS-35 scores of the patients in the control group had decreased.

Table 2- Comparison of the pre test – post test DSMS-35 Scores and HbA1c Values of the Intervention and Control Groups

		Intervention (n= 25)			Control (n= 26)			Z**	p
		Mean±Ss	Min	Max	Mean±Ss	Min	Max		
DSMS-35 Scores	Pre test	83,08±21,30	47	132	80,38±16,08	51	106	-,226	,821
	Post test	122,36±13,37	87	139	73,92±12,93	51	100	-6,031	0,000
		Z* =-3,983 p =0,000			Z* =-2,542 p =0,011				
HbA1c	Pre test	10,66±1,91	8,4	15,3	9,95±2,23	6,5	14,4	-1,103	,270
	Post test	7,20±1,32	4,0	10,3	9,50±2,14	06,4	13,9	-4,093	0,000
		Z* =-4,373 p =0,000			Z* =-1,258 p =,209				

p<0.05; \*Z, Wilcoxon Signed Ranks Test; \*\*Z, Mann-Whitney U Test

Table 2 also shows the comparison of the pretest–posttest HbA1c values of the intervention and control groups. A significant difference was found between the final test HbA1c values of the intervention and control groups ( $Z = -4.093$ ,  $p < 0.05$ ). There was also a significant difference when the patient HbA1c values between the preliminary test and final test in the intervention group were compared ( $Z = -4.373$ ,  $p < 0.05$ ), and it was seen that the final test HbA1c values were lower than the values prior to the intervention. No significant difference between the preliminary- and final-test HbA1c values of the patients in the control group was found. ( $Z = -1.258$ ,  $p > 0.05$ ).